

1. In a system for inscribing a pattern on a surface, said system comprising an emitter housing including a laser for generating a high energy emission beam, a system controller for entering data representing the pattern to be inscribed on the surface and for converting said data to control signals and beam direction apparatus for controllably directing said emission beam responsive to the control signals from said system controller and power circuitry connecting said laser and said beam direction means to a source of power, the improvement comprising:

5 an emitter housing defining an interior comprising top, bottom, side and end walls, a laser source for producing a high intensity beam disposed in said interior of said emitter housing;

10 a marking head comprising a housing defined by top, bottom, side and end walls, said walls defining an interior, said marking head being pivotally joined to a wall of said emitter housing by a pivot joint, said pivot joint including a through running passage for optical communication between said interior of said emitter housing and said interior of said marking head, said interior of said marking head electronically communicating with said emitter housing and with said system controller, one of said end walls defining an emission face of said marking head and having an emission port for the passage of the high intensity beam there through, said interior of said marking head including beam directing apparatus for moving the high intensity beam in a defined pattern on a surface being etched responsive to signals from said system controller and a lens for focusing said high intensity beam;

15 an optical path from said laser source to said emission port of said marking head being defined by an alignment mirror in said emission housing, said through-running passage in said pivot joint, said beam directing apparatus and said lens in said marking head;

20 circuit means electrically connecting said system controller, said marking head and said laser source.

2. The system of claim 1 wherein said pivot joint comprises a cylindrical extension from a wall

of said housing of said marking head, said cylindrical extension is journaled in a corresponding opening a wall of said emitter housing , a through running passage in said cylindrical extension is aligned with a corresponding passage in said wall of said marking head to define a portion of said optical path for said high intensity beam to traverse from said emitter housing to said beam directing apparatus of said marking head.

3. The system of claim 1 wherein said marking head is pivotally mounted on a side wall of said emitter housing.

4. The system of claim 1 wherein a portion of one side wall of said emitter housing adjacent said front wall defines a mounting face that is biased forwardly inwardly with respect to the longitudinal axis of said emitter housing and said marking head is pivotally mounted thereon.

5. The system of claim 1 wherein said emission face further includes a pair of interlocks, each of which include a spring loaded pin to break the circuit to the laser and prevent the laser from firing unless the pins are fully retracted.

6. The system of claim 1 including a pair of suction cups carried on said emission face said suction cups, a suction chamber in said marking head communicating with said suction cups and with a vacuum line for reducing pressure in said suction chamber for drawing the emission face against the surface being etched.

7. The system of claim 1 wherein said beam directing apparatus comprises first and second motor driven mirrors disposed in said marking head in the path of said emission beam for directing said emission beam to x and y coordinates on the surface being etched, said system further including circuitry for receiving command signals from said system controller and for relaying commands to

said beam directing apparatus and to said laser source.